

DT12 Rec'd PCT/PTO 31 JAN 2005

Patent Claims

1. A winch, particularly for driving an umbrella, having a rope drum (48, 48a, 48b, 48c) driven by a manual crank (24, 24a) for winding up a rope (28), wherein is provided a feeler (100, 100a, 122) that responds to the direction of entry of the rope if the rope (28) is fully unwound or if the rope is wound onto the rope drum (48, 48a, 48b, 48c), said feeler being connected to a locking member (102, 102a, 128) that coacts with at least one stop (104, 104a, 130) if the winding occurs in the wrong direction, said stop being assigned to the rope drum (48, 48a, 48b, 48c) and locking the wrong winding direction.
2. The winch of claim 1, wherein the feeler (122) is prestressed in the locking position.
3. The winch of claim 1, wherein the feeler (100, 100a) is prestressed in the released position.
4. The winch of claims 1 to 3, wherein the feeler (100, 100a, 122) is fixedly mounted over the entire length of the rope drum (48, 48a, 48b, 48c).
5. The winch of claim 4, wherein the feeler (100, 100a) is arranged on both sides on an arm (106, 106a), respectively, of a two-arm rocker (108, 108a), which is pivotably mounted around a pivot pin (110, 110a), which is arranged parallel to the axis of the rope drum (48a, 48c) and at a radial distance thereto, wherein the locking member (102, 102a) is arranged respectively on the other arm (112, 112a) of the rocker (108, 108a).
6. The winch of claim 5, having a guide rod (110, 110a) extending over the rope drum (48a, 48c) for entry of the rope (28).

7. The winch of claim 4, wherein the feeler (122) is configured as a slide (124) that is prestressed against the rope drum (48b) and on which the locking member (128) is arranged, which runs against the stop (130) in the case of a wrong direction of rotation of the rope drum (48b) and can be lifted out of the locked area of the stop (130) in the case of a correct direction of rotation.
8. The winch of one of the claims 1 to 7, having a releasable click-stop device (52, 52a) and a releasable brake device (54, 54a), which can be intercombined and can be operated by means of the manual crank (24, 24a).
9. The winch of claim 8, wherein the manual crank (24, 24a) is connected via a threaded joint (68, 70, 146, 148) to the rope drum (48, 48a, 48b, 48c), which is mounted in a housing (40, 134) of the winch (22, 22a, 22b, 22c) and can be latched by means of the click-stop device (52, 52a) to a ratchet (56, 56a) that is rotatable on the rope drum (48, 48a, 48c) and a pawl (64, 64a) located on the housing side; the ratchet (56, 56a) is connected via a brake disk (64, 64a) in the axial direction to the manual crank (24, 24a) such that during the opening motion of the manual crank (24, 24a) the brake disk (64, 64a) is pressed against the ratchet (56, 56a) by the threaded joint (68, 70, 146, 148) and blocks said ratchet, and that during the counterclockwise closing motion of the manual crank (24, 24a), the pressure against the brake disk (64, 64a) is released in the sense of a slipping clutch, so that the rope (28) can roll off the rope drum (48, 48a, 48b, 48c).
10. The winch of claim 9, wherein the manual crank (24) is attached to an axle (46), which is guided coaxially through an opening (66) of the rope drum (48, 48a, 48b) and screwed together with an inside thread (70) of the rope drum (48) via an outside thread (68).

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11. The winch of one of the claims 8 to 10, wherein a freewheel device (71) is assigned to the click-stop device (52) with a freewheel button (72) that can be operated from the outside of the housing (40), which contains a retaining pin (74) that can retract against a locking profile (76) of the rope drum (48, 48a, 48b) in order to block the rope drum (48, 48a, 48b) until the brake device (54) becomes inactive as the closing motion of the manual crank (24) progresses.
12. The winch of claim 11, wherein the freewheel device (71) has a stop (82), preferably a nut, against which the manual crank (24) rests in a blocking state as a closing motion progresses and if the brake device (54) is released.
13. The winch of claim 12, wherein the stop (82) is arranged on an axle extension (80) of the axle (46) and coacts with the face (86) of the rope drum (48) via a spring (84).